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COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

NOTIFICATION

No.EL.23 (2) /Nomination/2008. *26th July 2010.*

It is hereby notified that the Chairman, University Grants Commission has nominated Prof. P. Prakash Babu, Department of Biotechnology, School of Life Sciences, University of Hyderabad- 500 046 to the Academic Council of this University in accordance with Section 23 (2) "Nominated Members (iii)" of the CUSAT Act, 1986.

The term of office of the above member shall be for a period of two years with effect from 16-7-2010 subject to the provisions of CUSAT Act, 1986 (31 of 1986) and statutes made thereunder.

Dr. N. CHANDRAMOHANAKUMAR,
Kochi. *Registrar.*

COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

NOTIFICATIONS

(1)

No. Conf. II/2941/2/2009.

18th January 2010.

In exercise of the powers conferred under Section 24 (ii) read with Section 42 (1) of CUSAT ACT, 1986 (Act 31 of 1986) the Academic Council at its meeting held on 24-4-2009 resolved to approve the Regulation and Scheme of Examination for the 5 year B.B.A, LL.B (Honours) Degree course offered at the School of Legal Studies as appended.

The Syndicate at its meeting held on 22-8-2009 vide Item No. 547.38 approved the above decision taken by the Academic Council and made this effective from the academic year 2009-10.

APPENDIX

REGULATION FOR THE FIVE YEAR B.B.A, LL.B. (HONOURS) COURSE

(As approved by the Board of Studies and Faculty of Law held on 7-4-2009)

1. The Bachelor's Degree in Business Administration (B.B.A.) and Law (LL.B.) (Honours) shall consist of regular course of study for a minimum period of 10 semesters in five years after plus two.
2. The course of study shall be by regular attendance at the requisite number of lectures, tutorials and practical training.
3. The medium of instruction shall be English.
4. Number of seats: Number of students to be admitted each year shall be decided and notified by the University from time to time.

Eligibility

5. *Minimum qualification for admission:*—A candidate who seeks admission to the course shall have passed plus two examination with the prescribed percentage of marks (including languages) at the time of admission. The candidate should have secured a minimum of sixty per cent marks for the plus two examination if he/she pursued science group or commerce group. The candidates who are from the arts/humanities stream shall have a minimum of fifty-five percentage of marks for the plus two examination. Candidates belonging to SC or ST communities or belonging to OEC communities with a pass in the plus two examination with 40 per cent marks are entitled to seek admission.
6. Candidates should not have crossed 20 years of age on July 1st of the year of admission (22 years in case of SC/ST and OBC).

Procedure for selection

7. Admission to the course shall be made from the rank list prepared by the University on the basis of score obtained by the candidate in the Common Admission Test consisting of written test, group discussion and interview. If large number of candidates qualify the written test, a short list of five times than the sanctioned strength of the course may be made to call candidates for group discussion and interview. In case of SC & ST students from this list, if five times students are not available all the SC & ST candidates who have appeared for the CAT may be invited for group discussion and interview.
8. In making selection for admission, the pattern of reservation prescribed by the University shall be followed.

Fee Structure

9. A student shall pay the fees prescribed by the University from time to time.

Curriculum

10. The B.B.A., LL.B. (Hons.) Curriculum shall consist of 20 compulsory courses in Business Management, 26 compulsory and 14 elective courses in Law. Six of the elective courses shall be chosen and offered by the Law School from among the General Elective Courses. The other eight elective courses shall be chosen either wholly from a particular group or from various groups shown as Special Elective Groups viz., Constitutional Law, Business Law, Law and Agriculture, Intellectual Property Law and such other groups introduced by the University/Bar Council from time to time depending upon the availability of infrastructural facilities. However, if the Special Elective Courses are chosen entirely from one special group the student shall be awarded an Honours degree specifically mentioning the group.

[For example, if all the 8 special electives are from Business Law Group, the student shall be given a B.B.A., LL.B. (Honours) Degree in Business Law.]

A. Compulsory Courses in Law are:

- (1) Jurisprudence (Legal Method, Indian Legal System and Basic Theory of Law)
- (2) General Principles of Contract (Law of Contract—I)
- (3) Special Contracts (Law of Contract—II)
- (4) Law of Torts and Motor Vehicles Accidents
- (5) Consumer Protection Law
- (6) Family Law - I
- (7) Family Law - II
- (8) Law of Crimes - I
- (9) Law of Crimes - II
- (10) Law of Criminal Procedure
- (11) Constitutional Law - I
- (12) Constitutional Law - II
- (13) Property Law .
- (14) Law of Evidence

- (15) Civil Procedure Code and Limitation Act
- (16) Administrative Law
- (17) Company Law
- (18) Public International Law
- (19) Principles of Taxation Law
- (20) Environmental Law
- (21) Labour Law-I (Trade Unions and Industrial Disputes)
- (22) Labour Law-II (Social Securities Law)

B. Compulsory Clinical Courses in Law:

- (23) Drafting, Pleading and Conveyance
- (24) Professional Ethics and Professional Accounting System
- (25) Alternative Dispute Resolution
- (26) Moot Court Exercise and Internship

C. Courses in Management:

- (1) Principles of Management
- (2) Managerial Economics-I
- (3) Business Statistics
- (4) Managerial Economics-II
- (5) Human Resource Management
- (6) Financial Accounting
- (7) Cost and Management Accounting
- (8) Advertising and Publicity Management
- (9) Business Communication
- (10) Financial Management
- (11) Marketing Management
- (12) Operations Management
- (13) Business Ethics
- (14) Information Technology for Managers
- (15) Industrial Relations
- (16) Business Environment
- (17) Organizational Dynamics
- (18) Management Project
- (19) General English-1
- (20) General English-II

D. General Elective Courses in Law:

- (1) International Trade Law
- (2) Criminology, Penology and Victimology
- (3) Air and Space Law
- (4) Law and Medicine
- (5) Women and Law
- (6) Law Relating to Child
- (7) Law, Poverty and Development
- (8) Interpretation of Statutes
- (9) Science, Technology and Law
- (10) Forensic Science and Medical Jurisprudence

- (11) Private International Law
- (12) Land Utilization Law
- (13) International Humanitarian and Refugee Law
- (14) Law of the Sea
- (15) Laws Relating to Armed Forces
- (16) Laws Relating to Agriculture
- (17) Law of Local Self Government
- (18) Disability Law
- (19) Law Governing Scientific Research
- (20) Law Relating to Ships
- (21) Law on Building and Engineering Contracts
- (22) Securities Laws
- (23) Marine Safety Law
- (24) Healthcare Law
- (25) Law of Co-operative Societies
- (26) Disaster Management Law

E. Special Elective Courses in Business Law:

- (1) Banking Law
- (2) Insurance Law
- (3) Law of Carriages
- (4) Foreign Trade Law
- (5) Bankruptcy and Insolvency Law
- (6) Law of Corporate Governance
- (7) Law of Merger and Acquisition
- (8) Competition Law
- (9) Information Technology Law
- (10) Law on Corporate Finance

Teaching Scheme

- 11. Every teacher shall prepare a teaching plan at the commencement of the course. The teaching plan shall contain the details of lectures, seminars, discussions, treatises and other materials relied upon by him or her for handling the classes which shall be participatory. Discussion methods of teaching will be adopted.

Examination

- 12. There shall be a University examination at the end of each semester. Candidates having not less than 80% attendance in each paper shall alone be admitted to the examination. 10% of the required percentage of attendance in each paper may be condoned by the Vice Chancellor on medical grounds.
- 13. For each written paper carrying 100 marks, 50% shall be set apart for being awarded by way of internal assessment and 50% marks for the written external examination. Internal assessment shall be made on the basis of overall performance during the semester such as regularity of attendance, preparation and presentation of assignments, test paper scoring and class room participation.
- 14. The performance in practical training papers shall be assessed internally.

15. A candidate who is registered and is entitled to be presented for the examination in a semester shall be entitled to pursue the studies for the next semester of the course.
16. There shall be a viva-voce at the end of tenth semester examination which may cover all the courses taught for the whole programme. The viva board shall consist of the Chairman and two examiners, at least one of whom shall be an External Examiner.
17. A candidate admitted for this course shall complete the programme within a period of eight years from the date of admission.

Pass minimum and classification

18. A candidate who secures not less than forty percentage in the internal as well as external examinations and also secure and aggregate of fifty per cent of the total marks for individual papers in the semester examination shall be declared to have passed the examination in that paper.
19. A candidate who passes in all the papers and secures 50% or more of the aggregate marks for all the ten semesters but less than 60% shall be declared to have passed whole examination in second class.
20. Successful candidates with 60% marks and above in the aggregate for all the ten semesters shall be declared to have passed the whole examination in first class.
21. Successful candidates with seventy-five percentage marks or above in the aggregate for all the ten semesters shall be declared to have passed the examination with distinction provided he/she passes all the examinations within the period of whole programme. Ranking shall be done on the basis of marks obtained by the candidate in the whole examination passed in the first chance.

SCHEME OF EXAMINATION

<i>Code</i>	<i>Name of Paper</i>	<i>Duration of Examination</i>	<i>Marks Internal</i>	<i>Marks External</i>	<i>Total</i>
(1)	(2)	(3)	(4)	(5)	(6)
First Semester					
C.M. 1	General English—1	3 hours	50	50	100
C.M. 2	Principles of Management	3 hours	50	50	100
C.M. 3	Managerial Economics—I	3 hours	50	50	100
C.M. 4	Business Statistics	3 hours	50	50	100
C.L. 1	Law of Torts and Motor Vehicles Accidents	3 hours	50	50	100
C.L. 2	General Principles of Contract	3 hours	50	50	100
Total			300	300	600
Second Semester					
C.M. 5	General English—II	3 hours	50	50	100
C.M. 6	Managerial Economics—II	3 hours	50	50	100
C.M. 7	Human Resource Management	3 hours	50	50	100
C.M. 8	Financial Accounting	3 hours	50	50	100
C.L. 3	Special Contracts	3 hours	50	50	100
C.L. 4	Constitutional Law—I	3 hours	50	50	100
Total			300	300	600

(1)	(2)	(3)	(4)	(5)	(6)
Third Semester					
C.M. 9	Cost and Management Accounting	3 hours	50	50	100
C.M. 10	Advertising and Publicity Management	3 hours	50	50	100
C.M. 11	Business Communication	3 hours	50	50	100
C.L. 5	Jurisprudence (Legal Method, Indian Legal System and Basic Theory of Law)	3 hours	50	50	100
C.L. 6	Constitutional Law—II	3 hours	50	50	100
C.L. 7	Law of Crimes—I	3 hours	50	50	100
		Total	300	300	600
Fourth Semester					
C.M. 12	Financial Management	3 hours	50	50	100
C.M. 13	Marketing Management	3 hours	50	50	100
C.M. 14	Operations Management	3 hours	50	50	100
C.L. 8	Family Law—I	3 hours	50	50	100
C.L. 9	Administrative Law	3 hours	50	50	100
C.L. 10	Law of Crimes—II	3 hours	50	50	100
		Total	300	300	600
Fifth Semester					
C.M. 15	Business Ethics	3 hours	50	50	100
C.M. 16	Information Technology for Managers	3 hours	50	50	100
C.L. 11	Law of Criminal Procedure	3 hours	50	50	100
C.L. 12	Family Law—II	3 hours	50	50	100
C.L. 13	Consumer Protection Law	3 hours	50	50	100
C.L. 14	Law of Evidence	3 hours	50	50	100
		Total	300	300	600
Sixth Semester					
C.M. 17	Industrial Relations	3 hours	50	50	100
C.M. 18	Business Environment	3 hours	50	50	100
C.L. 15	Company Law	3 hours	50	50	100
C.L. 16	Labour Law—I	3 hours	50	50	100
C.L. 17	Civil Procedure Code and Limitation Act	3 hours	50	50	100
C.L. 18	Public International Law	3 hours	50	50	100
		Total	300	300	600

(1)	(2)	(3)	(4)	(5)	(6)
Seventh Semester					
C.M. 19	Organizational Dynamics	3 hours	50	50	100
C.L. 19	Principles of Taxation Law	3 hours	50	50	100
C.L. 20	Labour Law-II	3 hours	50	50	100
C.L. 21	Environmental Law	3 hours	50	50	100
C.L. 22	Property Law	3 hours	50	50	100
C.CL. 1	Drafting, Pleading and Conveyance	..	100	..	100
		Total	350	250	600
Eighth Semester					
G.E.C. 1	Elective—1	3 hours	50	50	100
G.E.C. 2	Elective—2	3 hours	50	50	100
G.E.C. 3	Elective—3	3 hours	50	50	100
G.E.C. 4	Elective—4	3 hours	50	50	100
C.M. 20	Management Project	..	100	..	100
C.CL. 2	Professional Ethics & Professional Accounting System	..	100	..	100
		Total	400	200	600
Ninth Semester					
G.E.C. 5	Elective—5	3 hours	50	50	100
G.E.C. 6	Elective—6	3 hours	50	50	100
S.E.C. 1	Special Elective-1	3 hours	50	50	100
S.E.C. 2	Special Elective-2	3 hours	50	50	100
S.E.C. 3	Special Elective-3	3 hours	50	50	100
C.CL. 3	Alternative Dispute Resolution	..	100	..	100
		Total	350	250	600
Tenth Semester					
S.E.C. 4	Special Elective-4	3 hours	50	50	100
S.E.C. 5	Special Elective-5	3 hours	50	50	100
S.E.C. 6	Special Elective-6	3 hours	50	50	100
S.E.C. 7	Special Elective-7	3 hours	50	50	100
S.E.C. 8	Special Elective-8	3 hours	50	50	100
C.CL. 4	Moot Court Exercise and Internship	..	100	..	100
V.V.	Viva-Voce			100	100
		Total	350	350	700

In exercise of the powers conferred by Section 24 (ii) read with Section 42 (1) of the CUSAT Act 1986 (Act 31 of 1986) the Academic Council at its meeting held on 24th April, 2009 resolved to approve the Regulation and Scheme of Examination of the 4 year course in B. F.Sc. (Nautical Science) offered by CIFNET as appended.

The Syndicate at its meeting held on 1-8-2009 vide Item No. 546.07 approved the above said Regulation and Scheme of Examinations and made it effective from 2005 admission onwards.

**REGULATIONS AND SCHEME OF EXAMINATION OF THE 4 YEAR COURSE
In B.F.Sc. (Nautical Science)
(Effective from 2005 admission onwards)**

The B.F.Sc., Degree course, in Nautical Science conducted by CIFNET. Cochin funded by Ministry of Agriculture, Government of India, is an eight semester programme, which include lectures, laboratory work, seminars etc. During the eight semesters the students will also undergo Course work and have to do a project work in an industry/ R & D organisation or in the Department and submit a report on his/her work. The course structures and scheme of examination are given in clause (10) below :

1. Conditions for Admission

Candidates for admission to the B.F.Sc. (Nautical Science) shall be required to possess the following qualifications

- 1.1. The candidate shall have passed the plus two or equivalent examination of any Board of Secondary Education with Mathematics and Science.
- 1.2. The age limit for admission is as follows : Maximum : 20 as on 1st October of the respective year.
- 1.3. The Candidate shall have secured a minimum 50% marks in Mathematics and 50% aggregate marks in other Science Subjects and minimum 50% marks in English either in X or XII Std.
- 1.4. The Candidates shall also satisfy the conditions regarding physical fitness as prescribed by the Director General of Shipping.
- 1.5. Admission to the course shall be through Common Admission Test conducted by CIFNET and personal interview conducted by a Committee including the representatives from the University.
- 1.6. Criteria of admission will be on the basis of Marks obtained by the candidate in Mathematics and Science Subjects in plus two. Common Admission Test and Interview the weightage of which are 90 marks as above in plus two. 10 marks for interview and 100 marks for Common Admission Test.
- 1.7. No admission shall be made after 30 days from the date of commencement of the first semester.

2. Duration of the Course

- 2.1. The curriculum requirement of B.F.Sc. (Nautical Science) Degree shall consist of a period of 4 Academic Years as prescribed in the curriculum.
- 2.2. The four Academic Years shall be split into 8 semesters. Examinations will be conducted at the end of each semester in subjects prescribed in the respective scheme of examinations.
- 2.3. The teaching programme for each Semester shall consist of minimum 16 weeks with 80 working days.

3. Promotion to Higher Semesters

- 3.1. A candidate shall be eligible for promotion from one semester to the next semester only if
 - (a) He/She has valid registration for the University Examination.
 - (b) He/She has secured a minimum of 75% attendance.

- 3.2. Supplementary University Examination for all Semesters shall be held along with the regular examinations.
- 3.3. Special supplementary examination may be arranged for the 7th and 8th Semesters.
- 3.4. The total number of chances to appear for the examination in any subject is limited to three.
- 3.5. A candidate who does not register for the examination at the end of semester shall not be promoted to the next semester.

4. Eligibility for the Degree

- 4.1. A candidate shall become eligible for the B.F.Sc. (Nautical Science) Degree when he/she has undergone the prescribed course of study for a period of eight semesters in the University and has passed the prescribed examinations in all the semesters.
- 4.2. The candidates shall complete all requirements for Degree within a period of 8 academic years from the date of admission to the first year.

5. Rules for Readmission

- 5.1. As per University Rules.

6. Pass Requirements and Classification of Successful Candidates

- 6.1. 50% of marks are allotted for University semester end examination and 50% for internal assessment marks.
- 6.2. A Candidate who secures 50% of the aggregate of the University examination marks and internal assessment marks put together shall be declared as passed in the examination in that subject. In subjects where there are no University Examination a candidate shall secure 50% marks for internal assessment for a pass in that subject, including projects.
- 6.3. A candidate who qualifies for the degree passing all the subjects of all the examinations and secures an aggregate of not less than 75% of the grand total of marks including internal assessment marks for all the eight semesters shall be declared to have passed in First Class with Distinction.
- 6.4. A candidate who qualifies for the degree passing all the subjects of the examination and secures not less than 60% of the grand total of marks including internal assessment marks for all the 8 semesters shall be declared to have passed in First Class.
- 6.5. All the other successful candidates shall be declared to have passed all the examinations for the degree in Second Class.
- 6.6. Ranking among the candidates will be limited to those who have passed all the examinations in the first available chance and have secured at least First Class.

7. Rules Regarding Internal Assessment Marks

- 7.1. The total internal assessment marks for theory papers shall be made up of 80% for internal tests and 20% for assignments and seminars. For laboratory papers/industrial project practicals and onboard practical training, internal assessment will be based on internal test and the day to day performance in the labs/industry.

8. Number of Seats

The number of seats for general category shall be 15. In addition to this one each of seats shall be given to NRI and Foreign National. The eligible number of seats for SC, ST & OBC shall be decided as per the rules and regulations of Government of India. The increase in total number of seats shall be subject to availability of infrastructure.

9. Revision of Curriculum

- 9.1. The University may from time to time amend or revise, amend or change the scheme or examination and syllabi.
- 9.2. New schemes/regulations shall be made binding to new admission only.
- 9.3. Whenever there is a change in the existing scheme of examinations, the University examinations based on the old scheme/syllabi will be conducted for two more academic years.

10. Scheme of Course and Examination

The Scheme of examinations are as follows:

SCHEME OF EXAMINATION
&
DISTRIBUTION OF THEORY AND PRACTICAL HOURS

<i>Subjects</i>	<i>No. of Hours/week</i>			<i>Max. marks</i>		
	<i>Theory</i>	<i>Practical</i>	<i>Total</i>	<i>Internal</i>	<i>External</i>	<i>Total</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Semester I						
1.1. General English	3	..	3	50	50	100
1.2. General Mathematics	4	..	4	50	50	100
1.3. Classification of Fishing Gear	6	..	6	50	50	100
1.4. Naval Architecture - I (Fishing Craft Technology)	6	..	6	50	50	100
1.5. Marine Fishery Resources	5	..	5	50	50	100
1.6. Nautical Science-I [Chart Work (Practicals) - I]	..	6	6	50	50	100
Total	24	6	30	300	300	600
Semester II						
2.1. Communicative English	3	..	3	50	50	100
2.2. Fishery Biology	4	..	4	50	50	100
2.3. Fishing Gear Accessories	5	..	5	50	50	100
2.4. Nautical Science - II (Practical Navigation)	..	6	6	50	50	100
2.5. Fishing Gear Practicals - I	..	6	6	50	50	100
2.6. On Board Training - Practical	..	6	6	50	50	100
Total	12	18	30	300	300	600
Semester III						
3.1. Physical Oceanography	4	..	4	50	50	100
3.2. Fishing Gear Materials	5	..	5	50	50	100
3.3. Nautical Science-III (Safety, Seamanship & Watch keeping)	6	..	6	50	50	100
3.4. Fishing techniques-I	5	..	5	50	50	100
3.5. Marine Ecology	4	..	4	50	50	100
3.6. On Board Training-Practical	..	6	6	50	50	100
Total	24	6	30	300	300	600

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Semester IV						
4.1. Fishing Gear Design-I	6	..	6	50	50	100
4.2. Marine Meterology	3	..	3	50	50	100
4.3. Basics of Fishery Microbiology	3	..	3	50	50	100
4.4. Nautical Science-IV [Chart Work (Practicals)-II]	..	6	6	50	50	100
4.5. Fishing Gear Practicals-II	..	6	6	50	50	100
4.6. On Board Training- Practical	..	6	6	50	50	100
Total	12	18	30	300	300	600
Semester V						
5.1. Fish Preservation Techniques	5	..	5	50	50	100
5.2. Fishing Gear Design - II	5	..	5	50	50	100
5.3. Fishing Techniques- II	5	..	5	50	50	100
5.4. Nautical Science - V (Construction & Stability)	3	..	3	50	50	100
5.5. Fish Processing Technology Practical	..	6	6	50	50	100
5.6. On Board Training Practical	..	6	6	50	50	100
Total	18	12	30	300	300	600
Semester VI						
6.1. Fishery Products Technology	5	..	5	50	50	100
6.2. Marine Engineering - I (Engines, Propellers)	5	..	5	50	50	100
6.3. Nautical Science - VI (Navigational Aids)	6	..	6	50	50	100
6.4. Naval Architecture - II (Boat Building)	5	..	5	50	50	100
6.5. Fishing Gear Practicals -III	..	3	3	50	50	100
6.6. On Board Training - Practical	..	6	6	50	50	100
Total	21	9	30	300	300	600

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Semester VII						
7.1. Introduction to Fisheries Extension	5	..	5	50	50	100
7.2. Nautical Science-VII (Seamanship & Navigation)	5	..	5	50	50	100
7.3. Marine Engineering-II (Refrigeration)	5	..	5	50	50	100
7.4. Ship Operation Technology	4	..	4	50	50	100
7.5. Electives (One out of the four)	5	..	5	50	50	100
1. Design of nets						
2. Design of Otter board						
3. Design of fishing crafts						
4. Modelling of Fishing gear						
7.6. On Board Training—Practical	..	6	6	50	50	100
Total	24	6	30	300	300	600
Semester VIII						
8.1. Culture Fishery	3	..	3	50	50	100
8.2. Fleet Management	3	..	3	50	50	100
8.3. Introduction to Coastal Zone Management	3	..	3	50	50	100
8.4. Introduction to Fisheries Economics	3	..	3	50	50	100
8.5. Marine Fisheries Management	3	..	3	50	50	100
8.6. Project Work	..	15	15	200	..	200
Total	15	15	30	450	250	700

(3)

No. Conf.II/2941/2/09 (2).

26th November 2009.

In exercise of the powers conferred by Section 24(ii) read with Section 42(1) of the CUSAT Act 1986, the Academic Council at its meeting held on 24th April, 2009 resolved to approve the following:

- (1) The Revised Scheme of Examinations for (a) M. Tech. in Computer and Information Science. (b) M.Tech. in Software Engineering offered at Department of Computer Science
(Appendix I).
- (2) The Revised Scheme of Examinations for “Diploma Course in Hydrographic Survey” offered by National Institute of Hydrography under Southern Naval Command.
(Appendix II).

The Syndicate at its meeting held on 22-8-2009 vide Item 547.38 resolved to approve the above resolutions made by the Academic Council and made these effective from 24-4-2009 the date of Meeting of the Academic Council.

APPENDIX I

DEPARTMENT OF COMPUTER SCIENCE

PROGRAMME STRUCTURE AND SYLLABUS (2009) ADMISSION

M-TECH. COMPUTER AND INFORMATION SCIENCE

Sl.No.	Course Code	Course Title	Core/Elective	Credits	LEC	LAB	Marks
Semester I							
1	CSC 3101	Discrete Structures and Graph Theory	C	4	3	3	100
2	CSC 3102	Theory of Computation	C	4	3	3	100
3	CSC 3103	Design and Analysis of Algorithms	C	4	3	3	100
4	..	Elective I	E	3	3	3	100
5	..	Elective II	E	3	3	3	100
Total				18	15	15	500

Electives

CSC 3104: Computer Communication & Networking

CSC 3105: Information Retrieval

CSC 3106: Parallel Computer Architecture

CSC 3107: Intelligent Systems

Sl.No.	Course Code	Course Title	Core/Elective	Credits	LEC	LAB	Marks
Semester II							
1	CSC 3201	Information Management	C	4	3	3	100
2	CSC 3202	Graphics and Visual Computing	C	4	3	3	100
3	CSC 3203	Seminar	C	1	0	0	50
4	..	Elective III	E	3	3	3	100
5	..	Elective IV	E	3	3	3	100
6	..	Elective V	E	3	3	3	100
Total				18	15	15	550

Electives

CSC 3204: Operating System Design

CSC 3205: Computational Linguistics

CSC 3206: Ad hoc Networks

Sl.No.	Course Code	Course Title	Core/Elective	Credits	LEC	LAB	Marks
Semester III							
1	CSC 3301	Project and Viva Voce	C	18	0	15	400
Semester IV							
1	CSC 3401	Project and Viva Voce	C	18	0	15	500

Total Credits for Degree: 72

2. M.TECH. SOFTWARE ENGINEERING

Sl.No.	Course Code	Course Title	Core/Elective	Credits	LEC	LAB	Marks
Semester I							
1	CSS 3101	Software Engineering Principles	C	4	3	3	100
2	CSS 3102	Software Project Management	C	4	3	3	100
3	CSS 3103	Seminar	C	1	0	0	50
4	..	Elective I	E	3	3	3	100
5	..	Elective II	E	3	3	3	100
6	..	Elective III	E	3	3	3	100
Total				18	15	15	550

Electives

CSS 3104: Model-Driven Software Development

CSS 3105: Management and Maintenance of Information Systems

CSS 3106: Human Computer Interaction

Sl.No.	Course Code	Course Title	Core/Elective	Credits	LEC	LAB	Marks
Semester-II							
1	CSS 3201	Business Administration & Technical Communication	C	4	3	3	100
2	CSS 3202	Software Architecture & Design Patterns	C	4	3	3	100
3	CSS 3203	Software Quality Management	C	4	3	3	100
4	..	Elective III	E	3	3	3	100
5	..	Elective IV	E	3	3	3	100
Total				18	15	15	500

Electives

CSS 3204: Design of Real Time/Embedded Software

CSS 3205: Agent Based Computing

CSS 3206: Data Mining

Sl.No.	Course Code	Course Title	Core/Elective	Credits	LEC	LAB	Marks
Semester III							
1.	CSS 3301	Project and Viva Voce	C	18	0	15	400
Semester IV							
1.	CSS 3401	Project and Viva Voce	C	18	0	15	500

Total Credits for Degree: 72

APPENDIX II

DIPLOMA COURSE IN HYDROGRAPHIC SURVEY

PROGRAMME No. 8301

SCHEME OF EXAMINATION (REVISED)

Sl.No.	Subject Codes	Subject/Examination	Total HRS	Marks
1	01.01.01	Hydrographic Control—I	70	100
2	01.01.02	Hydrographic Control—II	70	100
3	01.01.03	Hydrographic Practice—I	70	100
4	01.01.04	Hydrographic Practice—II	70	100
5	01.01.05	Tides & Basic Oceanography	70	100
6	01.01.06	Administration, Stores & Teaching Technique	70	80(Th)+20(P)
7	01.01.07	Data Processing-I	70	60(Th)+40(P)
8	01.01.08	Data Processing-II	70	100
9	01.01.09	Data Processing-II Practicals	70	100(P)
10	01.01.10	Field Practical Ashore	70	100
11	01.01.11	Field Practical Afloat	70	100
12	01.01.12	Class Work Book/Practical Work Book/Field book/Fair chart	..	100
Total			770	1200

(4)

No. Conf.II/2941/2/ 09 (3).

16th October 2009.

In exercise of the powers conferred by Section 24(ii) read with Section 42(1) of the CUSAT Act 1986, the Academic Council at its meeting held on 24th April, 2009 resolved to make the following:

- (1) Modification of the name of EB 704 Medical Imaging Techniques of B.Tech VII Semester as EB 704/EC 705(E) Medical Imaging Techniques.
- (2) Revised the Regulation for M. Tech. (PT) Degree Course and Scheme of Examinations of (a) M.Tech (PT) Degree Course in Civil/Chemical/Mechanical Engineering (b) M. Tech (FT) Degree Course in (i) Civil Engineering (Specialisation: Geotechnical Engineering) (ii) Mechanical Engineering (Specialisation: Thermal Engineering) offered by School of Engineering as appended.

The Syndicate at its meeting held on 22-8-2009 vide Item 547.38 approved the above resolutions made by the Academic Council and made them effective from 24-4-2009 the date of Meeting of the Academic Council.

APPENDIX

REGULATIONS FOR M. TECH (PART TIME) DEGREE COURSE

The following regulations are made applicable to all part time M.Tech programmes under Faculty of Engineering in the University with effect from the academic year 2009-10.

1. M. Tech Programme

The Part time M.Tech course in the University is a six semester programme with a total duration of three calendar years: wherein the first four semesters will include lectures, laboratory work/seminars. The student will devote part of fourth semester and the fifth and sixth semesters on a project work related to a relevant area of the specialization either in the Department or in collaboration with an Industrial/Research/Academic Institution outside the University.

1.1 Specialisation

No. of seats

(a) Civil Engineering—Construction Engineering & Management	15
(b) Mechanical Engineering—Production Engineering	15
(c) Chemical Engineering—Process Engineering	15

The subjects of study are offered by Departments/Schools of the University. A student is admitted to the course as per the eligibility criteria prescribed below:

1.2.1 Academic Qualifications

Candidates for admission to the M.Tech Degree Course (Part time) shall be required to possess the following qualifications:

- Shall have passed B.Tech/B.Sc. (Engg.) / B.E. Degree Examination in the respective branch with a minimum of 50% marks from any University in Kerala or an Examination of any other University/Institution accepted by this University as equivalent thereto.
- Applications from candidates who have passed B.Tech/B.Sc (Engg.)/B.E. Degree Examination in allied branches of Engineering/Technology with a minimum of 50% marks may also be considered in the absence of sufficient number of candidates from the respective branch of Engineering. The suitability of such candidates for the course may be assessed by an Admission Committee constituted by the Head of the Department/ School.
- Candidates who have passed sections A and B of the Associate Membership/ Graduate Membership Examinations in respective branches conducted by the Institution of Engineers (India). Institution of Electronics and Telecommunication Engineers and Indian Institute of Chemical Engineers with a minimum of 50 percent marks are also eligible for admission if they have an Engineering Diploma or a Basic Degree in Science.

1.2.2 Professional Experience

A minimum of 2 years of professional experience in the concerned field is required after acquiring the qualifying Degree. This may be relaxed if sufficient number of candidates with the minimum prescribed experience are not available.

1.3 Admission Procedure

Admission will be based on the rank list prepared by giving due weightage to qualifying degree marks (50%), admission test conducted by the department (40%), and number of years of experience after obtaining the degree (weightage at the rate of 1% per year of experience subject to a maximum of 10%).

1.4 Mode of Evaluation

- A student would be considered to have progressed satisfactorily at the end of a semester if he/she has a minimum of 75 % attendance and will be permitted to proceed to the next semester. The Vice-Chancellor shall have the power to condone shortage of attendance up to 10 percent on medical grounds on the recommendations of the Head of Division/Department. However such condonation for shortage of attendance shall be given only once during the entire course.
- The student shall be evaluated continuously throughout the semester and marks shall be awarded on, the basis of tests/assignments and attendance as detailed below:

A maximum of 20 marks are awarded for the various assignments given to the students by the concerned teacher.

There shall be two class tests and an end semester examination.

The first class test carries 20 marks and will be based on the portions of the syllabi covered till then.

The second class test also carries 20 marks and will be based on the portions covered till then after the first class test.

The end semester examination will be for 40 marks and shall contain questions from the entire syllabi of the course.

The duration of all the end semester examinations in theory and practicals shall be three hours.

- 1.4.3 The results of each subject in a semester shall be finalized by the concerned faculty member within 20 days from the last date of the end semester examination and the marks and grades obtained by the candidate in each subject shall be displayed on the notice board with the approval of the course-coordinator and head of the division concerned.
- 1.4.4 The pass minimum in a subject is 50 %. If a candidate fails to secure 50% marks, he/she shall be deemed to have failed in the subject. .
- 1.4.5 A supplementary examination for the end semester examination shall be conducted as per the existing M.Tech Regulations for the failed candidates within 15 days from the date of display of the marks/grades.
- 1.4.6 The final marks/grade of the candidate taking into account his/her performance in the supplementary examination and periodic tests and assignments shall be finalized within 7 days from the date of the supplementary examination. A candidate securing a minimum 50 percent marks shall be considered to have passed in that subject.
- 1.4.7 If the candidate fails to meet the minimum requirement for pass even after two attempts, he/she shall have to repeat the subject at the next available chance.
- 1.4.8 A pass in the course will entitle the student to acquire the number of credits allotted for that particular course. (for the details of number of credits, please refer to the course structure.)
- 1.4.9 Project evaluation shall be done at the end of V and VI semesters. At the end of VI semester, the students will have to submit a dissertation on his/her project work which will be presented before an examination committee consisting of the head of the department/division, another senior teacher project guide and an external expert.

1.5 Course Structure and the Scheme of Examination

Course structure for each branch of study is annexed in 1.5.1 to 1.5.3.

1.6 Classification

The following grading system is adopted for all the courses. The following grades will be awarded based on the overall performance in each subject.

Range of Marks	Grades	Weightage
90 % and above	S- Outstanding	10
(80-89)	A- Excellent	9
(70-79)	B-Very Good	8
(60-69)	C - Good	7
(50-59)	D- Satisfactory	6
Below 50%	F- Failed	0

Overall performance at the end of the Semester will be indicated by Grade Point Average (GPA) calculated as follows:

$$\text{GPA} = \frac{\text{G1 C1} + \text{G2 C2} + \text{G3 C3} + \dots + \text{Gn Cn}}{\text{C1} + \text{C2} + \text{C3} + \dots + \text{Cn}}$$

Where 'G' refers to the grade weightage and 'C' refers to the credit value of corresponding course undergone by the student.

At the end of the final semester, Cumulative Grade Point Average (CGPA) will be calculated based on the above formula.

Classification for the Degree will be as follows:

<i>Classification</i>	<i>CGPA</i>
First class with distinction	8 and above
First class	6.5 and above
Second class	6 and above

1.7 Declaration of Results

The final marks will be reported to the University for tabulation and declaration of results. The University shall issue mark lists at the end of each semester.

1.8 Review of Question Papers and Valuation of answer books

At the end of each semester, the question papers set for class test and end semester examination will be reviewed by the Departmental Council. The review report may be placed in the Board of Studies for scrutiny.

1.9 Grievance Cell

The Departmental Council will act as a grievance cell where complaints from the students on the conduct of the class test, semester exam, and the valuation methodology can be examined. The student shall make such complaints within a week of the examination to the Head of the Department in writing for scrutiny by the grievance cell.

1.10 Revision of Regulation and Curriculum

The University may from time to time, revise, amend or change the regulations, schemes of examinations and syllabus. In the case of students already undergoing the course, the change will take effect from the beginning of the following academic year after the changes are introduced and shall cover the part of the course that remains to be completed.

1.5.1 M. Tech Degree Course (PT) in Civil Engineering

(Specialisation : Construction Engineering and Management)

SCHEME OF EXAMINATIONS

<i>Course Code</i>	<i>Subject</i>	<i>No. of Credits</i>
Semester I		
CEC 3101	Applied Mathematics	3
CEC 3102	Construction Management	3
CEC 3103	Advanced Geotechnical Engineering	3
CEC 3104	Structural Dynamics	3
CEC 3105	Seminar 1	1
	Total	<u>13</u>
Semester II		
CEC 3201	Computational Techniques	3
CEC 3202	Construction Engineering	3
CEC 3203	Foundation Engineering	3
CRC 3204	Elective I	3
CEC 3205	Computer Laboratory	1
	Total	<u>13</u>
Elective I		
CEC 3204 a	Earthquake resistant design of structures	3
CEC 3204 b	Design of Metal structures	3
CEC 3204 c	Design of special structures	3

<i>Course Code</i>	<i>Subject</i>	<i>No. of Credits</i>
Semester III		
CEC 3301	Construction Equipments & Management	3
CEC 3302	Construction Safety and Fire Engineering	3
CEC 3303	Design of Prestressed concrete structures	3
CEC 3304	Elective II	3
CEC 3305	CAD Laboratory	1
	Total	13
Elective II		
CEC 3304 a	Finite element Method	3
CEC 3304 b	Eco-friendly Constructions	3
CEC 3304 c	Building Services	3
<i>Course Code</i>	<i>Subject</i>	<i>No. of Credits</i>
Semester IV		
CEC 3401	MIS & Finance Management	3
CEC 3402	Elective III	3
CEC 3403	Elective IV	3
CEC 3404	Project—Preliminary Evaluation	4
	Total	13
Elective III		
CEC 3402 a	Modern Construction Materials	3
CEC 3402 b	Innovative Construction Practices	3
CEC 3402 c	Ground Improvement Techniques	3
Elective IV		
CEC 3403 a	Maintenance and Rehabilitation of Structures	3
CEC 3403 b	Contracts and Legal Aspects in Construction	3
CEC 3403 c	Soil Dynamics & Machine Foundations	3
<i>Course Code</i>	<i>Subject</i>	<i>No. of Credits</i>
Semester V		
CEC 3501	Project Progress Evaluation	13
	Total	13
Semester VI		
CEC 3601	Project Dissertation Evaluation and Viva Voce	13
	Total	13
	Grand Total	78

1.5.2 M. Tech. Degree Course (PT) in Mechanical Engineering (Production)

SCHEME OF EXAMINATION

<i>Course Code</i>	<i>Subject</i>	<i>Credit</i>
Semester I		
MEP 3101	Applied Mathematics	3
MEP 3102	Advanced Materials Technology	3
MEP 3103	Metal Forming Theory	3
MEP 3104	Advanced Numerical Methods and Computational Techniques	3
MEP 3105	Seminar I	1
	Total	13

<i>Course Code</i>	<i>Subject</i>	<i>Credit</i>
Semester II		
MEP 3201	Computer Aided Product Design	3
MEP 3202	Metal Cutting Theory and Practice	3
MEP 3203	Maintenance and Reliability Engineering	3
MEP 3204	Elective I	3
MEP 3205	Seminar II	1
	Total	<u>13</u>
MEP 3204 Elective I		
MEP E-1	Mechatronics	
MEP E-2	Computer Graphics	
MEP E-3	Six Sigma	
<i>Course Code</i>	<i>Subject</i>	<i>Credit</i>
Semester III		
MEP 3301	Computer Integrated Manufacturing	3
MEP 3302	Advances in Casting and Welding	3
MEP 3303	Modern Machining Processes	3
MEP 3304	Elective II	3
MEP 3305	CAD/CAM Laboratory	1
	Total	<u>13</u>
MEP 3304 Elective II		
MEP E-4	Special Purpose Machine Tools	
MEP E-5	Microfabrication	
MEP E-6	Design of Experiments	
MEP E-7	Industrial Tribology	
<i>Course Code</i>	<i>Subject</i>	<i>Credit</i>
Semester IV		
MEP 3401	Advances in CNC Machines	3
MEP 3402	Elective III	3
MEP 3403	Elective IV	1
MEP 3404	Project—Preliminary Evaluation	6
	Total	<u>13</u>
MEP 3402 Elective III & MEP 3403 Elective IV		
MEP E-8	Hydraulic and Pneumatic Control System	
MEP E-9	Vibration and Noise in Machine Tools	
MEP E-10	Design for Manufacture	
MEP E-11	Quality Engineering and Management	
MEP E-12	Total Quality Management	
MEP E-13	Finite Element Method and Application	
MEP E-14	Manufacturing System Design	
Semester V		
MEP 3501	Project Progress Evaluation	13
	Total	<u>13</u>
Semester VI		
MEP 3501	Project Dissertation Evaluation & Viva Voce	13
	Total	<u>13</u>
	Grand Total	<u>78</u>

1.5.3 Chemical Engineering (Process Engineering)

SCHEME OF EXAMINATION

Course Code	Subject	No. of Credits
Semester I		
CHEP 3101	Advanced Engineering Mathematics	3
CHEP 3102	Chemical Plant Design and Economics	3
CHEP 3103	Advanced Process Control	3
CHEP 3104	Bioprocess Engineering	3
CHEP 3105	Seminar I	1
	Total	<u>13</u>
Semester II		
CHEP 3201	New Separation Techniques	3
CHEP 3202	Catalysis and Surface Phenomena	3
CHEP 3203	Environmental Engineering and Management	3
CHEP 3204	Elective I	3
CHEP 3205	Seminar II	1
	Total	<u>13</u>
Elective I	CHEP 3204A CHEP 3204B CHEP 3204C	High Polymer Engineering Food Process Engineering Fluidization Engineering
Course Code	Subject	No. of Credits
Semester III		
CHEP 3301	Advanced Chemical Reaction Engineering	3
CHEP 3302	Interfacial Science and Engineering	3
CHEP 3303	Process Safety Engineering	3
CHEP 3304	Elective II	3
CHEP 3305	Seminar III	1
	Total	<u>13</u>
Elective II	CHEP 3304A CHEP 3304B CHEP 3304C	Project Engineering of Process Plants Energy Systems Engineering Process Modelling, Simulation and Optimization
Course Code	Subject	No. of Credits
Semester IV		
CHEP 3401	Nano Science and Technology	3
CHEP 3402	Elective III	3
CHEP 3403	Elective IV	3
CHEP 3404	Project—Preliminary Evaluation	4
	Total	<u>13</u>
Elective III	CHEP 3402A CHEP 3402B CHEP 3402C	Bioenergy Engineering Computational Fluid Dynamics Advanced Chemical Engineering Thermodynamics
Elective IV	CHEP 3403A CHEP 3403B CHEP 3403C	Computer Aided Design Pinch Technology Advanced Fluid Dynamics & Heat Transfer

<i>Course Code</i>	<i>Subject</i>	<i>No. of Credits</i>
Semester V		
CHEP 3501	Project Progress Evaluation	13
	Total	<u>13</u>
Semester VI		
CHEP 3601	Project Dissertation Evaluation & Viva Voce	13
	Total	<u>13</u>
	Grand Total	78

**M. TECH. (FULL TIME) DEGREE COURSE IN MECHANICAL ENGINEERING
SPECIALIZATION—THERMAL ENGINEERING**

<i>Course Code</i>	<i>Name of the Subject</i>	<i>No. of Credits</i>
Semester I		
DME 3101	Advanced Heat and Mass Transfer	4
DME 3102	Refrigeration and Cryogenics	4
DME 3103	Incompressible and Compressible Flow	4
DME 3104	IC Engine Combustion and Pollution	4
DME 3105	Elective I	3
DME 3106	Thermal Engineering Laboratory I	1
DME 3107	Seminar	1
	Total	<u>21</u>
Elective I		
DME 3105 A	Principles of Turbo Machinery	
DME 3105 B	Numerical Methods in Thermal Engineering	
DME 3105 C	Gas Turbines	
DME 3105 D	Conduction and Radiation	
<i>Course Code</i>	<i>Name of the Subject</i>	<i>No. of Credits</i>
Semester II		
DME 3201	Computational Methods in Engineering.	4
DME 3202	Measurements in Thermal Engineering	4
DME 3203	Propulsion	4
DME 3204	Cryogenic Engineering	4
DME 3205	Elective II	3
DME 3206	Thermal Engineering Laboratory II	1
DME 3207	Seminar	1
	Total	<u>21</u>

Elective II
DME 3205 A
CFD and its Application
DME 3205 B
Introduction to Turbulence
DME 3205 C
Diagnostic Methods in Combustion Systems
DME 3205 D
Convection and Two Phase Flow

<i>Course Code</i>	<i>Name of the Subject</i>	<i>No. of Credits</i>
Semester III		
DME 3301	Advanced Thermodynamics	4
DME 3302	Combustion Technology	4
DME 3303	Elective III	3
DME 3304	Project	8
	Total	19

Elective III		
DME 3303 A	Industrial Refrigeration and cold chain	
DME 3303 B	Finite Element Analysis	
DME 3303 C	Heat Exchanger Design	

<i>Course Code</i>	<i>Name of the Subject</i>	<i>No. of Credits</i>
Semester IV		
DME 3401	Project Progress Evaluation	15
	Total	15
	Grand Total	76

**M. Tech (Full Time) Degree Course in Civil Engineering
(Specialization—Geotechnical Engineering)**

<i>Course Code</i>	<i>Course Name</i>	<i>L/T</i>	<i>P/S</i>	<i>Credits</i>
Semester I				
CEG 3101	Applied Mathematics	4		4
CEG 3102	Advanced Geotechnical Engineering	4		4
CEG 3103	Soil Exploration and Field Tests	4		4
CEG 3104	Soil Dynamics and Machine Foundation	4		4
CEG 3105	Elective I	4		3
CEG 3106	Geotechnical Engineering Lab		3	1
CEG 3107	Seminar		2	1
	Total	20	5	21

Elective I

CEG 3105 a	Theoretical Soil Mechanics
CEG 3105 b	Soil Behaviour
CEG 3105 c	Design and Evaluation of Pavements

<i>Course Code</i>	<i>Course Name</i>	<i>L/T</i>	<i>P/S</i>	<i>Credits</i>
Semester II				
CEG 3201	Computational Techniques	4		4
CEG 3202	Advanced Foundation Engineering	4		4
CEG 3203	Ground Improvement Techniques	4		4
CEG 3204	Earthquake Geotechnical Engineering	4		4
CEG 3205	Elective II	4		3
CEG 3206	Computer Lab		3	1
CEG 3207	Seminar		2	1
	Total	20	5	21

Elective II

CEG 3205 a	Finite Elements in Geomechanics
CEG 3205 b	Structural Design of Foundations
CEG 3205 c	Landslide Mitigation

<i>Course Code</i>	<i>Course Name</i>	<i>L/T</i>	<i>P/S</i>	<i>Credits</i>
Semester III				
CEG 3301	Environmental Geotechnical Engineering	4		4
CEG 3302	Reinforced earth and Geotextiles	4		4
CEG 3303	Elective III	4		3
CEG 3304	Project		12	8
	Total	12	5	19
Elective III				
CEG 3303 a	Earth Retaining Structures			
CEG 3303 b	Applied Geology and Remote Sensing			
CEG 3303 c	Soil Structure Interaction			
<i>Course Code</i>	<i>Course Name</i>	<i>L/T</i>	<i>P/S</i>	<i>Credits</i>
Semester IV				
CEG 3401	Project		25	15
	Total		25	15
	Grand Total			76

Cochin University P. O., (Sd.)
 Kochi. *Registrar.*